

# **SYSTEM AND METHOD FOR ESTABLISHING MULTIPLE OPTICAL LINKS BETWEEN TRANSCEIVER ARRAYS**

## **ABSTRACT**

5 A multiple channel transmission system includes at least two plug in modules interconnected by a plurality of optical fiber bundles. For greater transceiver density and design flexibility, two-dimensional transceiver arrays (e.g., N X M arrays of transmitters and/or receivers) are mounted on a major surface of each plug-in module. Optical fiber connectors are employed at a peripheral edge of each plug-in module, and optical fibers interconnecting the  
10 transceivers and corresponding edge mounted connectors are bundled into two dimensional (N x M) arrays at the point where they are optically coupled to two dimensional transceiver arrays (e.g., N X M arrays of transmitters and/or receivers). The bundle groups exiting each transmitter array fan out or diverge as they approach a corresponding group of edge mounted fiber connectors. Optical interconnections between plug-in modules are achieved by fiber  
15 connections between edge mounted connectors.